Final Report Kanes Creek South and Valley Highwall

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October 29, 2010

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Watershed information

WVDNR Code	WVM-8
8-digit HUC Code	05020003, Monongahela River
10-digit HUC Code	0502000302, Deckers Creek
12-digit HUC Codes	050200030201, Headwaters Deckers Creek
	050200030202, Outlet Deckers Creek

Sub watersheds of interest

Stream	DNR Code	SWS	Aluminum[1]		Iron	
			TMDL[2]	Current[3]	TMDL	Current
Slabcamp Run	WV-M-08-F	23	41,877	18,480	199,553	9,054
Kanes Creek	WV-M-09-I	206	11,791	13,549	52,987	9,765

[1] Water quality standards were changed to dissolved aluminum after this value for needed reduction in total aluminum was calculated
[2] Total load determined in the TMDL analysis
[3] Load measured since July 1, 2006

Introduction

A watershed based plan (WBP) for Deckers Creek, which was prepared in 2006, called for two parallel efforts to eliminate acid mine drainage (AMD) and allow the streams to meet water quality standards. Clean Water Act Section 319 funds would support remediation of smaller sources of AMD, mostly in the upper part of the watershed, but a partnership between the United States Department of Agriculture Natural Resources Conservation Service (NRCS) and the West Virginia Department of Environmental Protection Office of Abandoned Mine Lands and Reclamation (WVDEP-OAMLR) would address the Richard mine, a single, large abandoned mine that damages the five miles of the creek that flows through Morgantown, the most populous, most developed part of the watershed. The WBP also called for further work to eliminate fecal coliform bacteria from the watershed.

Overview of water quality progress

The effort to eliminate the smaller AMD sources focused first on Kanes Creek, an acidic tributary to Deckers Creek in the upper part of the watershed.
Figure **1** indicates where the AMD sources in this sub watershed lie. The largest potential AMD source in the watershed is the Morgan Mine Treatment plant. A mining company prevents discharges of AMD by pumping water out of mines and treating it before the underground pool raises high enough to discharge untreated water. This treatment plant may treat more than 500 tons of acidity per year. Because the permittee is successfully treating this AMD, this potential source is not a part of the WBP. Similarly, the DeCondor mine discharges AMD to a tributary of Kanes Creek, but the WVDEP Office of Special Reclamation will address this bond forfeiture issue.

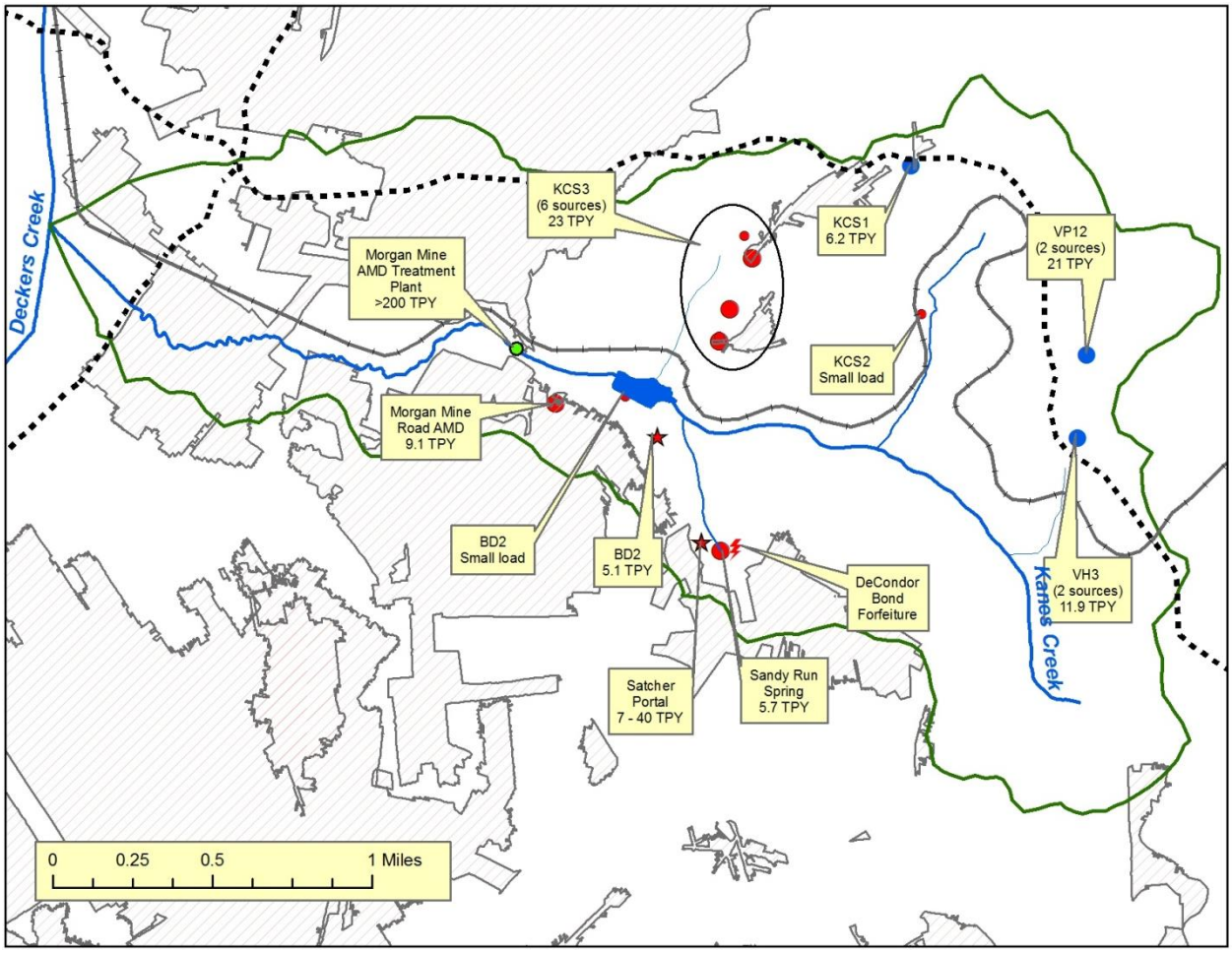

Figure 1: Acidity loads in the Kanes Creek watershed

Narrative

These two projects were completed during the current reporting period between April 1 and September 30, 2010. Completing the project included the following tasks at Valley Highwall #3:

- A mine seal was constructed at the excavated portal.
- A second portal was excavated uphill from an AMD seep, but no water was found flowing from the portal.
- Two under drains filled with non-calcareous stone were installed. The second was installed according to a change order because excavation of the second portal did not find the source of the seep.
- Banks around the turn-around area near the doser were finished and re-vegetated.
- Piping from the portal to the doser was installed.

The Kanes Creek South Site#1 project required the following tasks:

- The concrete foundation for the doser was poured.
- The contractor and subcontractor installed the doser and the silo.
- Piping was laid and buried between the sealed portal and the doser.
- A culvert was installed to carry drainage from the upper part of the OLC to the stream without becoming impounded.
- A portion of an OLC was grouted so that road debris could be removed easily.
- The site was re-vegetated.

Both dozers were filled and are dispensing lime to neutralize the AMD they are treating.

Practices Installed:

Friends of Deckers Creek and its partners installed a tipping-bucket lime-dosing apparatus at Kanes Creek South Site #1 and a second one at Valley Highwall #3.

Load reductions

We expect these projects to eliminate the entire AMD load coming from the two sites. The KCS1 project will eliminate 6.2 tons of acidity per year. The VH3 project will eliminate 11.9 tons of acidity per year.

Milestones:

The project is complete as of September 30, 2010.

Maps, figures, photos

The KCS1 and VH3 projects lie near the eastern end of the Deckers Creek watershed (
Figure **2**). KCS1 drains to the unnamed tributary to Kanes Creek at RM 3.2, while VH3 drains to the mainstem upstream from that confluence (
Figure **3**). The silo and lime-dispensing apparatus was installed at Kanes Creek South Site #1 on July 22 (
Figure **4**).

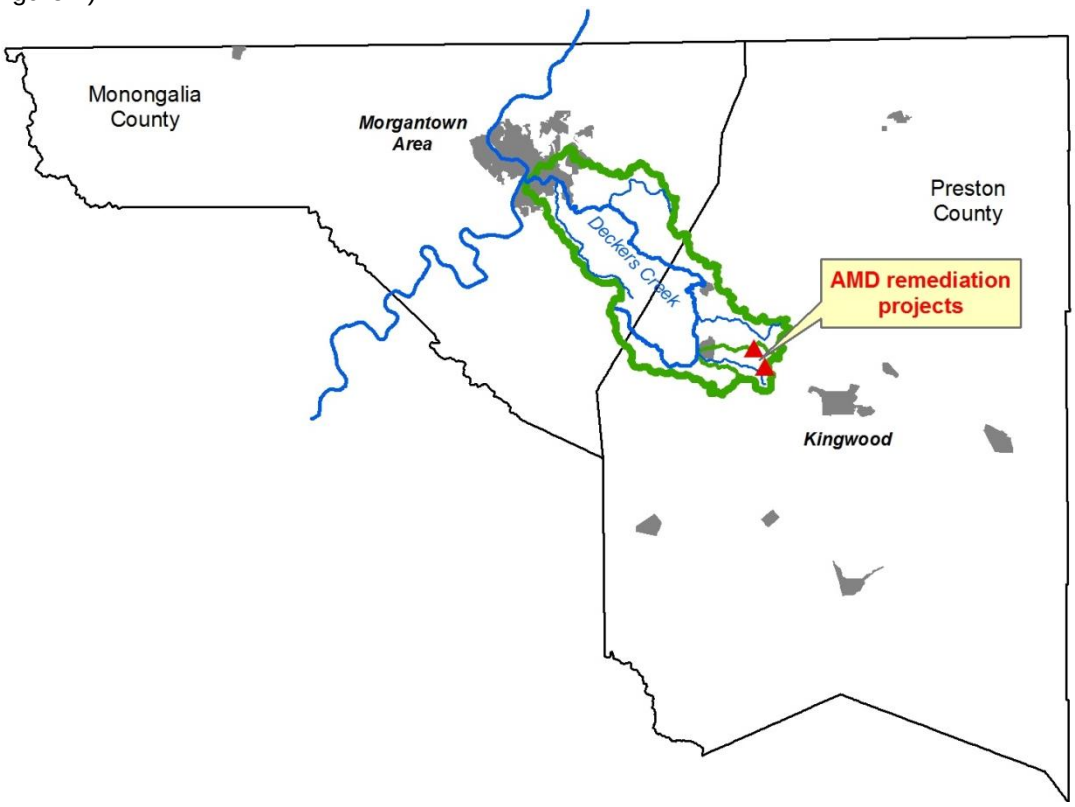

Figure 2: Location of the Kanes Creek South Site #1 and Valley Highwall #3 sites

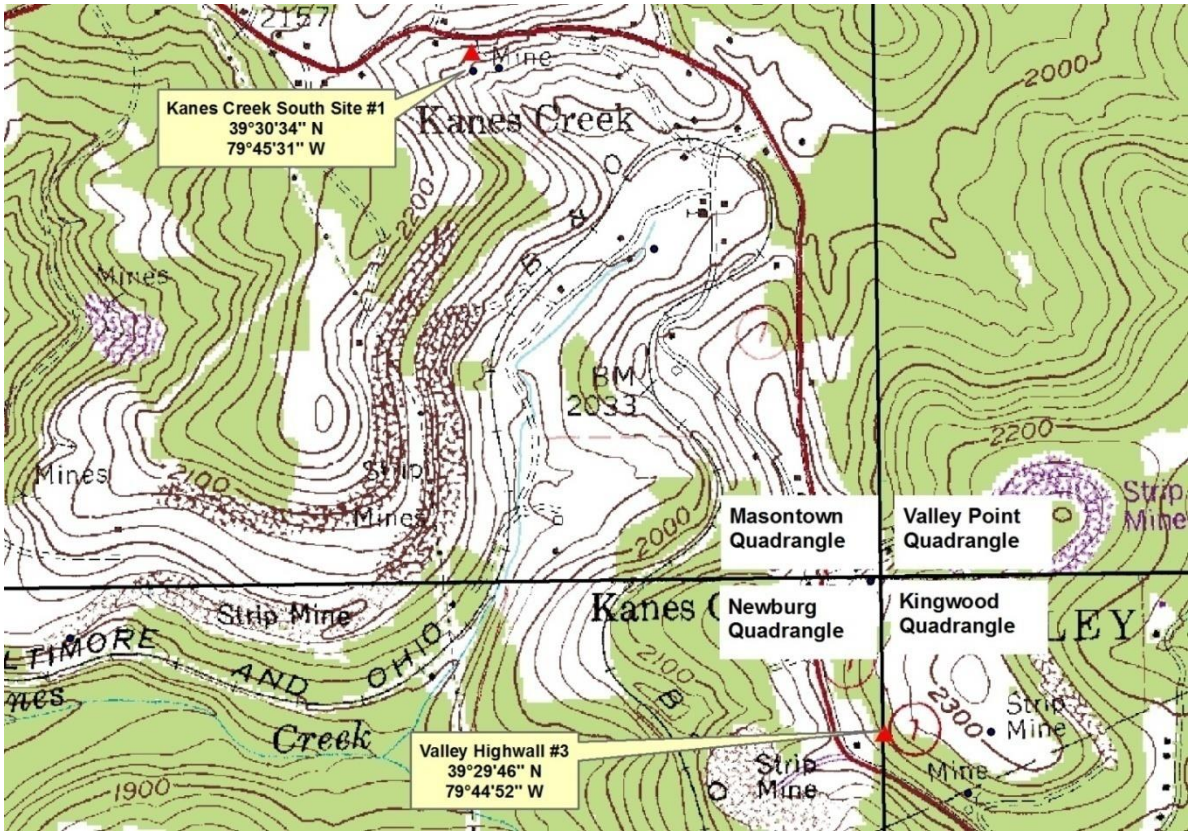

Figure 3: Location of projects on USGS quadrangles

This is a final report for the expenditures for the Valley Highwall #3 and Kanes Creek South Site #1 AMD remediation project. The expenditures are summarized below.

WVDEP	***Implementation***	***Non-implementation***	***Total***
Contractual	182,001	5,930	187,931
Operating		23,000	23,000
Personnel	13,397	11,585	24,982
Supplies	135	231	366
Travel	351	1,064	1,415
Total WVDEP	**195,884**	**41,810**	**237,694**
OSM	***Construction***	***Non-construction***	***Total***
Kanes Creek South 1	88,147	7,105	95,252
Valley Highwall 3	92,911	6,966	99,877
Total OSM	**181,058**	**14,071**	**195,129**
FODC Match			**3,000**
WVDEP-OAMLR			**130,000**
PROJECT TOTAL			**565,824**

Figure 4: From top left: A crane lifts the silo. The silo is placed on top of a poured concrete foundation. The tipping bucket apparatus. A pneumatic tanker fills the silo with hydrated lime.

NOTES:

- Nonpoint Source Pollution funds accounted for 42% of project costs.
- OSM WCAP funds accounted for 35% of project costs.
- Support for operations and maintenance, along with in-kind technical advice and support from the Office of Abandoned Mine Lands and Reclamation, account for 23% of the costs.
- 82% of the Nonpoint Source Pollution funds supported implementation of the two projects.